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## Study of Thermal Interface Material for Front End Electronics Cooling of Silicon Tracking System

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The Silicon Tracking System (STS) is the main tracking detector of the future CBM experiment at the future FAIR facility. It is designed to reconstruct charged particles trajectories inside a 1 Tm magnetic field to achieve a momentum resolution better than 2%. The system comprises of 890 low-mass detector modules, based on double-sided silicon micro-strip sensors, distributed on 8 tracking stations.

Due to the expected non-ionising irradiation damage at the end-of-lifetime, the innermost sensors will dissipate upto 6 mW/cm<sup>2</sup> at -10 °C. So, it is crucial to always keep the silicon sensors and the front end electronics at temperatures close to -10°C during the operation. In order to cool down the electronics, it becomes very important to choose the Thermal Interface Materials (TIMs) with good thermal conductivity.

This contribution will mainly focus on the testing of thermal interface materials between the Front End Electronics Board and the cooling shelves. This will include: [1] What are the basic requirements when it comes to TIMs from STS point of view [2] Thermal and mechanical tests performed with the TIM [3] Functionality tests using TIM with module.

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**Session Classification:** Coffee and poster session